Claims

What is claimed is:

1.   A data compression system, comprising:

a scanning component which scans at least a portion of a transformed image, wherein the scan is performed substantially in a horizontal direction on a first section of the portion and in a vertical direction on a second section of the portion to enable improved data compression of the transformed image.

2.   The data compression system of claim 1, wherein the horizontal and vertical scan directions are performed *via* a contiguous scan of the respective sections to enable improved data compression of the transformed image.

3.   The data compression system of claim 1, further comprising a wavelet transform subsystem for transforming an image into wavelet coefficients *via* low pass and high pass filters applied to the image.

4.   The data compression system of claim 3, further comprising a quantizer for reducing stored data associated with the wavelet coefficients.

5.   The data compression system of claim 3, further comprising a reordering and blocking subsystem to provide a matrix of wavelet coefficients that are organized into at least one of low-low (LL), low-high (LH), high-low (HL), and high-high (HH) sub-bands.

6.   The data compression system of claim 5, wherein the LH sub-bands are scanned in the vertical direction and the HL sub-bands are scanned in the horizontal direction.

7. The data compression system of claim 5, wherein the LL and HH sub-bands are scanned in either the horizontal or the vertical direction.

8. The data compression system of claim 5, wherein run length encoding is employed to encode the scanned coefficients.

9. The data compression system of claim 8, wherein at least one of Golomb-Rice encoding and Arithmetic encoding is employed to encode the scanned coefficients.

10. A method for providing a data compression system, comprising:

scanning at least a portion of a transformed image in substantially a horizontal direction on a first section of the portion; and

scanning in a vertical direction on a second section of the portion of the transformed image to enable improved data compression of the transformed image.

11. The method of claim 10, wherein the horizontal and vertical scan directions are performed *via* a contiguous scan of the respective sections to enable improved data compression of the transformed image.

12. The method of claim 10, further comprising:

transforming an image into wavelet coefficients *via* low pass and high pass filters applied to the image.

13. The method of claim 12, further comprising:

reordering and blocking to provide a matrix of wavelet coefficients that are organized into at least one of low-low (LL), low-high (LH), high-low (HL), and high-high (HH) sub-bands.

14.   The method of claim 13, wherein the LH sub-bands are scanned in the vertical direction and the HL sub-bands are scanned in the horizontal direction.

15.   The method of claim 13, wherein the LL and HH sub-bands are scanned in either the horizontal or the vertical direction.

16.   A data compression system, comprising:
         means for scanning at least a portion of a transformed image in substantially a horizontal direction on a first section of the portion; and
         means for scanning in a vertical direction on a second section of the portion of the transformed image to enable improved data compression of the transformed image.

17.   The data compression system of claim 16, wherein the horizontal and vertical scan directions are performed *via* a contiguous scan of the respective sections to enable improved data compression of the transformed image.

18.   The data compression system of claim 16, further comprising:
         means for transforming an image into wavelet coefficients *via* low pass and high pass filters applied to the image.

19.   The data compression system of claim 18, further comprising:
         means for reordering and blocking to provide a matrix of wavelet coefficients that are organized into at least one of low-low (LL), low-high (LH), high-low (HL), and high-high (HH) sub-bands.

20.   The data compression system of claim 19, wherein the LH sub-bands are scanned in the vertical direction and the HL sub-bands are scanned in the horizontal direction.

21.   The data compression system of claim 19, wherein the LL and HH sub-bands are scanned in either the horizontal or the vertical direction.

22.   An image compression system, comprising:

a wavelet transform subsystem for transforming an image into wavelet coefficients; and

a scanning component which contiguously scans at least a portion of the transformed image, wherein the contiguous scan is performed substantially in a horizontal direction on a first section of the portion and in a vertical direction on a second section of the portion to enable improved data compression of the transformed image.